

TECHNICAL SUPPORT SECTION TOXICITY REVIEW - I

Disinfectants Branch

IN	09/16/85	OUT	11/06/85
Reviewed by	James E. Wilson, Jr.	Date	11/05/85
EPA Reg. No. or File Symbol	10352-GR, GN		
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Type Product(s):	I, (D), H, F, N, R, S		
Data Accession No(s)	259306		
Product Mgr. No.	31 (LEE)		
Product Name(s)	Aguar (M) 514, Ucarcide (M) 114		
Company Name (s)	Union Carbide Corporation		
Submission Purpose	New Application		
Chemical & Formulation	Liquid		

Active Ingredient(s):

Alkyl(50% C<sub>14</sub>, 40% C<sub>12</sub>, 10% C<sub>16</sub>)  
dimethyl benzyl ammonium chloride

%

3.0

Glutraldehyde

15.0

## BACKGROUND

This product will be used to control microorganisms in water cooling towers.

## RECOMMENDATIONS

The data submitted are adequate to place the product in the following toxicity categories:

Acute Oral	- 3
Acute Dermal	- 3
Skin Irritation	- 1
Eye Irritation	- 1

The inhalation study did not attain a level high enough to classify the product. However, an inhalation study is not required for this product.

## LABELING

Revise the statement "Causes eye damage and skin irritation" to read "Causes eye and skin damage."

## CRP STATUS

Product does not require special packaging.

## DATA REVIEW

Reports by Bushy Run Research Center, submitted to Union Carbide Corporation, Danbury, CT 06817, dated November 26, 1984. (Accession No. 259306).

### Acute Oral

- Method - Five male and five female rats per group were fed a dose of 0.312, 0.625, 1.25 and 2.50 g/kg of the test via gastric gavage. The animals were observed for signs of toxicity and mortality 14 days. Body weights were taken on the day of dosing and weekly thereafter. All animals were subject to gross necropsy examination at time of death or after sacrifice.
- Results - One male and one female died at 0.625 g/kg; two male, and four females died at 1.25 and all rats died at 2.50 g/kg. Decreased activity, hunched posture, unkempt appearance and red discharges from eyes and nose were the most prevalent signs. Gross necropsy examinations revealed dark red lungs distended and gas-filled stomach and intestines with red liquid in animals that died. Findings in survivors were unremarkable.

Conclusion - The acute oral LD<sub>50</sub> were calculated to be 1.05 g/kg for combined sexes and 1.21 and 0.91 g/kg for male and female rats respectively.

#### Acute Inhalation

Report dated March 4, 1985.

Method - Five male and five female rats were exposed to the test material for 4 hours in a 120 liter chamber with an airflow of approximately 25 lites per minute. Atmospheric sample were taken every 30 minutes around the breathing zone of the animals. The rats were observed for 14 days after exposure and weighed weekly. Gross necropsy examination wer performed on all animals.

Results - A nomimal concentration of 8.1 ppm of glutaraldehyde was obtained. On the day of exposure closed eyes and lacrimation were the observed signs. No mortality was reported. Gross necropsy findings were unremarkable.

Conclusion - The highest obtainable concentration of glutaraldehyde under the conditions of the study (8.1 ppm) did not produce mortality or significant clinical signs.

#### Acute Dermal

Method - One group of New Zealand white rabbits, containing 5 male and 5 female rabbits. were prepared by clipping the dorsal hair. A dose of 2.0 g/kg was used. The test substance was administered to the intact site in one application, the site was then occluded for 24 hours. After 24 hours the coverings were removed from skin and the residual sample was wiped from the skin. Animals were observed for toxic signs for total of 14 days. Body weights were taken on the day of dosing and weekly thereafter. All sacrificed animals, as well as non-survivors were subjected to gross necropsy after the 14 day observed period.

Results - One male died. Erythema, edema and necrosis were seen on skin. Sluggishness, unsteady gait and prostration were the signs of toxicity reported. Body weight gains were depressed in the first week. Gross necropsy findings were unremarkable.

Conclusion - The acute dermal LD<sub>50</sub> is greater than 2.0 g/kg.

#### Skin Irritation

Method - Six white rabbits received a single dermal application of 0.5 ml of the test material on one intact site. After application the area was covered with a gauze patch and occluded for 4 hours. The residual chemical was washed from the skin. Reactions were examined and recorded 5, 24 and 72 hours after treatment.

Results - Erythema was moderate to severe through the 72 hour reading. Edema was moderate after 5 hours and persisted at that level through the 72 hour reading. Necrosis was seen at all sites.

Conclusion - The product is a corrosive skin irritant.

#### EYE IRRITATION

Method - The eyes of six New Zealand white rabbits were examined before the test. One-tenth gm of the test material instilled into the conjunctival sac of one eye of each rabbit. None of the eyes were rinsed. All eyes were examined periodically for 21 days after instillation or until irritation disappeared.

Results - One hour after instillation eyes in both groups exhibited mild iritis, corneal opacity and moderate to severe conjunctival irritation. After 24 hours most scores had increased to severe and did not subside in 21 days.

Conclusion - The product is corrosive to ocular tissue.